(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 20 September 2001 (20.09.2001)

PCT

(10) International Publication Number WO 01/67964 A3

(51)	International Patent Classification7:	
	17/128, 1/00	

A61B 17/068,

(21) International Application Number: PCT/IL01/00238

(22) International Filing Date: 12 March 2001 (12.03.2001)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

 135117
 16 March 2000 (16.03.2000)
 IL

 138632
 21 September 2000 (21.09.2000)
 IL

 139788
 20 November 2000 (20.11.2000)
 IL

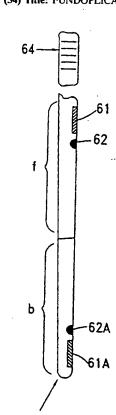
 141665
 26 February 2001 (26.02.2001)
 IL

(71) Applicant (for all designated States except US): MEDI-GUS LTD. [IL/IL]; 3 HaAmal Street, 84247 Beersheva (IL). (72) Inventors; and

- (75) Inventors/Applicants (for US only): SONNENSCHEIN, Elazar [IL/IL]; 32 Rahavat Yavne, 84800 Beersheva (IL). ZONNENSHEIN, Minelu [IL/IL]; 12 Yelim Street, 85025 Meitar (IL). CHINNOCK, Randal [US/US]; 53 McGilpin Road, Sturbridge, MA 01566 (US). CRAINICH, Lawrence [US/US]; 264 Ceda Road, Charlestown, NH 03603 (US).
- (74) Agents: LUZZATTO, Kfir et al.; Luzzatto & Luzzatto, P.O. Box 5352, 84152 Beer-Sheva (IL).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

[Continued on next page]

(54) Title: FUNDOPLICATION APPARATUS AND METHOD



63

(57) Abstract: An endoscopic device for the partial fundoplication for the treatment of GERD, comprises: a) a distal bending portion (b) and a flexible portion (f) suitable to be positioned in extended shape within the esophagus of a subject; b) a positioning assembly comprising two separate elements (62, 62A), one of which (62A) is located on said distal bending portion (b), and the other (62) on said flexible portion (f); c) a stapling assembly comprising a staple ejecting device (61A), wherein said staple ejecting device (61A) is located on either said bending portion (b) or on said flexible portion (f), said staple ejecting devices (61A) being in working positioned relationship when said two separate elements (62, 62A) of said positioning assembly are aligned; and d) circuitry for determining when said two separate elements (62, 62A) of said positioning assembly are aligned.



(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report: 18 April 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

International Application No Pc./IL 01/00238

A. CLASSI IPC 7	FICATION OF SUBJECT MATTER A61B17/068 A61B17/128 A61B1/0	0	
	, i		
According to	o International Patent Classification (IPC) or to both national classific	ation and IPC	
·	SEARCHED	·	
IPC 7	comentation searched (classification system followed by classification A61B	ion symbols)	
	tion searched other than minimum documentation to the extent that s		
i	ata base consulted during the international search (name of data ba	se and, where practical, search terms used;	
EPO-In	ternal		•
C. DOCUM	ENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the rel	evant passages	Relevant to claim No.
А	US 5 395 030 A (KURAMOTO ET AL.) 7 March 1995 (1995-03-07) cited in the application abstract; figures		1
А	EP 0 630 612 A (ETHICON INC.) 28 December 1994 (1994-12-28) abstract; figures column 1, line 55 -column 2, lin column 5, line 34 -column 6, lin		1
А	US 5 897 562 A (BOLANOS ET AL.) 27 April 1999 (1999-04-27) cited in the application abstract; figures	·	1
		-/	
ŀ		′	
X Funt	her documents are listed in the continuation of box C.	X Patent family members are listed in	n annex.
Special ca	tegones of cited documents :	"T" later document published after the inter	national filing date
consid	ent defining the general state of the art which is not lered to be of particular relevance	or priority date and not in conflict with cited to understand the principle or the invention	he application but
filing d	document but published on or after the international late int which may throw doubts on priority claim(s) or	"X" document of particular relevance; the cl cannot be considered novel or cannot involve an inventive step when the doc	be considered to
which citation	is cited to establish the publication date of another n or other special reason (as specified) ent referring to an oral disclosure, use, exhibition or	"Y" document of particular relevance; the cl cannot be considered to involve an inv document is combined with one or mo	aimed invention entive step when the
other i	means ent published prior to the international filing date but nan the priority date claimed	ments, such combination being obvious in the art. "&" document member of the same patent f	s,to a person skilled
	actual completion of the international search	Date of mailing of the international sear	
2	October 2001	ŋ 8, 92, 02	
Name and r	nailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2	Authorized officer	
	NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	GIMENEZ BURGOS, R	

2

PC , IL 01/00238

(Catecons *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Category *	onanon o document, with interestion, where appropriate, or the relevant passages	пенечали то ставт No.
A	US 5 403 326 A (HARRISON ET AL.) 4 April 1995 (1995-04-04) cited in the application abstract; figures	1
A	US 5 197 649 A (BESSLER ET AL.) 30 March 1993 (1993-03-30) cited in the application figures	1
A	US 5 787 897 A (KIETURAKIS) 4 August 1998 (1998-08-04) cited in the application abstract; figures	1
P,A	WO 00 53102 A (GAZAYERLI) 14 September 2000 (2000-09-14) cited in the application the whole document	1,26-28, 30-44,47
A	US 5 772 099 A (GRAVENER) 30 June 1998 (1998-06-30) claim 1	1,26,27, 29-31
A	US 5 676 674 A (BOLANOS ET AL.) 14 October 1997 (1997-10-14) cited in the application column 6, paragraph 4	1,43
Α	US 5 814 055 A (HUGHETT ET AL.) 29 September 1998 (1998-09-29) claim 1; figures 8,12-17	27,32
A	US 5 833 616 A (BELL ET AL.) 10 November 1998 (1998-11-10) figures 1,4,6	39
Р,А	US 6 099 542 A (KIM ET AL.) 8 August 2000 (2000-08-08) claim 1	41
A	US 5 727 553 A (SAAD) 17 March 1998 (1998-03-17)	
A	WO 91 00049 A (KARL STORZ GMBH & CO.) 10 January 1991 (1991-01-10) page 17, line 6 -page 23, line 14; figures 1-6C	48,49, 51,52
A	DE 42 41 938 A (KARL STORZ GMBH & CO.) 16 June 1994 (1994-06-16) column 7, line 41 -column 9, line 33; figures	48
	-/	1

2

International Application No
Pu., IL 01/00238

		Pt./IL 01	/00238
 	tion) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
Α	US 3 889 662 A (MITSUI KAZUHIKO) 17 June 1975 (1975-06-17) column 4, line 4-50		48,53
A .	WO 89 11252 A (UNIV CONNECTICUT) 30 November 1989 (1989-11-30) page 19, line 3 -page 24, line 11; figures 1,2,4,5		48-50
A	US 5 776 049 A (TAKAHASHI SUSUMU) 7 July 1998 (1998-07-07) column 5, line 3 -column 7, line 16 column 9, line 19 -column 10, line 19; figures 2A,B,9A,B		48
.			
.			
			·
			٠
}			
ĺ			
	·		
. [,
-			

PCT/IL 01/00238

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. X Claims Nos.: 20-25, 56, 62 because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
see additional sheet
As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-19, 26-53, 63, 64
Remark on Protest The additional search fees were accompanied by the applicant's protest.
No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-19,26-53,63,64

Endoscopic device comprising a bending portion and a positioning assembly.

2. Claims: 54,55

Endoscope having an ilumination channel and at least one objetive lens.

3. Claims: 57-61

Endoscope comprising a system for measuring the distance between two objects.

'ormation on patent family members

International Application No PC 1L 01/00238

· · · · · · · · · · · · · · · · · · ·				PC. IL	01/00238
Patent document cited in search report	Publication date		Patent family member(s)		Publication date
US 5395030 /	07-03-1995	JP	6047050	Α	22-02-1994
EP 0630612 /	28-12-1994	AU AU CA EP JP US	669794 6331894 2124109 0630612 7051273 5395033	A A1 A1 A	20-06-1996 01-12-1994 25-11-1994 28-12-1994 28-02-1995 07-03-1995
US 5897562 A	27-04-1999	US US	5676674 5571116		14-10-1997 05-11-1996
US 5403326 A	04-04-1995	NONE			
US 5197649 A	30-03-1993	AU AU CA EP JP US	661053 2724592 3424995 2081239 0540010 5337122 5411508	A A A1 A2 A	13-07-1995 06-05-1993 01-02-1996 30-04-1993 05-05-1993 21-12-1993 02-05-1995
US 5787897 A	04-08-1998	US US WO	5558665 6067990 9600030	Α	24-09-1996 30-05-2000 04-01-1996
WO 0053102 A	14-09-2000	US AU WO	6159146 3623300 0053102	Α	12-12-2000 28-09-2000 14-09-2000
US 5772099 A	30-06-1998	NONE			
US 5676674 A	14-10-1997	US US	5571116 5897562		05-11-1996 27-04-1999
US 5814055 A	29-09-1998	US AU AU CA EP JP AU AU CA EP JP	5662667 716012 3680897 2215636 0829235 10113351 705597 6565396 2185759 0769273 9182757	B2 A1 A1 A B2 A A1 A2	02-09-1997 17-02-2000 19-03-1998 12-03-1998 18-03-1998 06-05-1998 27-05-1999 27-03-1997 20-03-1997 23-04-1997 15-07-1997
US 5833616 A	10-11-1998	AU WO US	4159097 9808429 6236876	A1	19-03-1998 05-03-1998 22-05-2001
US 6099542 A	08-08-2000	US AU CA EP JP WO	5830224 1969797 2249237 0889705 11512640 9733522	A A1 A1 T	03-11-1998 01-10-1997 18-09-1997 13-01-1999 02-11-1999 18-09-1997

iformation on patent family members

International Application No PC./IL 01/00238

					01,00200
Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5727553	Α	17-03-1998	NONE		
WO 9100049	A	10-01-1991	DE	3921233 A1	14-02-1991
			ĀT	120628 T	15-04-199
			WO	9100049 A1	10-01-1991
			DE	59008855 D1	11-05-199
			EP	0434793 A1	03-07-1991
		•	JP	4500768 T	13-02-1992
			US	5166787 A	24-11-1992
DE 4241938	Α	16-06-1994	DE	4241938 A1	16-06-1994
			WO	9413190 A1	23-06-1994
			US	2002007110 A1	17-01-2002
US 3889662	Α	17-06-1975	DE	2425827 A1	19-12-1974
WO 8911252	Α	30-11-1989	US	4938205 A	03-07-1996
			CA	1316252 A1	13-04-1993
			EP	0416025 A1	13-03-1991
			JP	4500321 T	23-01-1992
			WO	8911252 A1	30-11-1989
			US	5109276 A	28-04-1992
			US	5200838 A	06-04-1993
			US	5172685 A	22-12-1992
			US	5200819 A	06-04-1993
US 5776049	Α	07-07-1998	JР	3220538 B2	22-10-2001
			JP	6194580 A	15-07-1994
			US	5522789 A	04-06-1996